

REMARKS

Claims 1, 6-22, 27, and 33-35 are pending in the present application.

The specification has been amended to expressly incorporate subject matter from co-pending U.S. application 09/705,187, which was incorporated by reference on page 9 of the specification, paragraph 21. A copy of this application is attached herewith. Specific support for this amendment can be found on page 3, lines 11-14; page 7, lines 18-23; page 8, line 7; page 14, line 1; and page 14, lines 4-11 of U.S. application 09/705,187.

Claim 1 has been amended to recite “placing a polymer gel contact mask having holes on a substrate, the holes together with the portions of the substrate which overlie the holes forming cavities.” Support for this amendment can be found in amended paragraph 21 of the specification which recites “a contact mask is placed over a substrate to conceal a portion of the substrate and leave a plurality of discontinuous portions of the substrate exposed. Such a mask has a plurality of holes through it. Each of the holes, together with the portion of the substrate surface which it overlies, forms a cavity.” Claim 1 has also been amended to recite that the tyrosine kinase is immobilized in the cavities of the polymer gel contact mask. Support for this claim amendment can be found in amended paragraph 21, which recites “biological and chemical materials can then be deposited into each of the cavities individually.”

Rejection of Claims Under 35 U.S.C. 112, First Paragraph

Claims 1, 5-7, 27, and 33-35 stand rejected for containing subject matter that was not described in the specification. Specifically, the Examiner asserts that the claimed “underlying the holes of the gasket” is not supported by the as-filed specification. Applicant submits that the amendment to claim 1 renders this rejection moot. The Examiner also states that the recitation of the gasket having holes with an orientation of wells of a 96-well plate is not supported by the as-filed specification. Claim 1 recites that the cavities “have a size and orientation of wells of a 96-well, 384-well, 1536-well, or 3456-well microwell plate.” Paragraph 56 of the specification specifically states that “multiple islands of molecules having dimensions as described may be arranged in arrays. Such arrays may be arranged in the wells of a 96, 384, 1536, or 3456 microwell

plate **or in areas the size and orientation of the wells of a 96, 384, 1536, or 3456**

microwell plate.” Such a recitation in the specification clearly supports the objected to language in claim 1. The Examiner further asserts that the recited polymer gasket placed on a substrate is at odds with the specification on page 8, paragraph 21. The Applicant requests clarification of this remark since paragraph 21 clearly states “in certain embodiments, such [as] where a surface without wells is use, binding islands may be formed or biomolecules may be immobilized on a surface and a gasket having holes spatially arranged so that they correspond to the islands or biomolecules may be placed on the surface.” For at least all these reasons, Applicant submits that the rejections of the claims under 35 U.S.C. 112, first paragraph are overcome and Applicant request withdrawal of these rejections.

Rejection of Claims Under 35 U.S.C. 112, Second Paragraph

The Examiner states that claim 1, step (b) is unclear as to whether the target molecule is immobilized in the gasket holes attached to the substrate. Step (b) of claim 1 clearly recites that the tyrosine kinases are immobilized in the cavities of the polymer gel contact mask. Step (a) clearly recites that a hole in the polymer gel contact mask together with the portion of the substrate which overlies the hole defines the cavity. Therefore, it is very clear as to exactly where the tyrosine kinases are immobilized.

The Examiner also states that “it is unclear as to the essentiality of the gasket holes to the process steps.” Applicant is under no obligation to state the “essentiality” of each element of a claim in order for the claim to pass muster under 35 U.S.C. 112, second paragraph. What is required is that the claims set forth the subject matter that Applicant regards as their invention and that the claims particularly point out and distinctly claim the metes and bounds of the subject matter that will be protected by the patent grant. Applicant has satisfied both these requirements. With respect to the first requirement, Applicant has not stated somewhere other than the application as filed, that the invention is something different from what is defined by the claims, i.e. Applicant has made no remarks or admissions that could be interpreted as evidence that shows that claim 1 does not correspond in scope with that which the Applicant regards as their invention. With

respect to the second requirement, the Examiner has not pointed to any particular claim language that is not sufficiently clear or precise.

The Examiner also states that “it is not clear as to the type of modification imparted on the target by the mere process step of contacting a target molecule with another compound. As described in the specification in paragraph 98, binding of a biomolecule to another biomolecule can cause modification of the biomolecule. Non-limiting examples of modifications brought about by this binding event are then described. As specifically described in Example 1 on page 59-60, in the case of immobilizing tyrosine kinases and exposing the immobilized tyrosine kinases to ATP and a member of the src family, an enzymatic addition of a phosphate group to the tyrosine kinase could be monitored. Therefore, Applicant has described how contacting a tyrosine kinase with ATP and a member of the src family of kinases results in modification of the tyrosine kinase. As such, Applicant submits that claim 1 is not indefinite and Applicant request withdrawal of this rejection.

The Examiner states that claims 5-7 are unclear as to the function of the target being detected. Claim 5 has been canceled and thereby the rejection of this claim is rendered moot. Claim 6 and 7 do not recite identifying the function of the target member but rather recite quantifying the amount present of the target member and determining the level of activity of the target member, respectively. Applicant therefore submits that such as rejection does not apply to claims 6 and 7 and Applicant requests withdrawal of this rejection.

The Examiner also asserts that claim 34 is unclear as to what constitutes a self-assembled monolayer formed on the substrate, absent a definition in the specification. Applicant submits that self-assembled monolayers (SAMs) are the most widely studied and best developed examples of nonbiological, self-assembling systems. They form spontaneously by chemisorption and self-organization of functionalized, long-chain organic molecules onto the surfaces of appropriate substrates. Applicant has described SAMs in detail throughout the specification (see, *inter alia*, paragraphs 29, 52, 61, 66, 67, 71, 76, 76-89, and 130) and submits that no specific definition that is not already evident from the descriptive term “self-assembled monolayer” is necessary.

The Examiner also states that claim 35 is at odds with Example 3 of the specification. The Examiner is not clear as to precisely what part of claim 35 is at odds with what part of Example 3. Applicant requests that the Examiner elaborate further regarding this rejection in order for Applicant to properly respond thereto.

Rejection of Claims Under 35 U.S.C. 103

Claims 1, 5-7, 27, and 33-35 stand rejected as being allegedly rendered obvious by U.S. Patent No. 6,511,824 to Ruggieri ("Ruggieri") or U.S. Patent No. 6,630,296 to Xue ("Xue") in view of WO 01/07164 to Mitsushashi ("Mitsushashi").

Without addressing the substance of this rejection, Applicant notes that Mitsushashi does not qualify as prior art under any provisions of 35 U.S.C. 102. The present application properly claims priority to U.S. Provisional No. 60/225363, which was filed on August 14, 2000. Mitsushashi was published on February 1, 2001, which is after the effective filing date of the present application. As such, Mitsushashi can only qualify as prior art under 35 U.S.C. 102(e). However, the international filing date of Mitsushashi is July 27, 2000. Pursuant to the Intellectual Property and High Technology Technical Amendments Act of 2002, a WIPO publication of an international application is 102(e) prior art as of the international application's filing date only if, *inter alia*, the international application was filed on or after November 29, 2000. Because Mitsushashi was filed before this date, Applicant submits that Mitsushashi does not qualify as 102(e) art against the present application.

The Examiner has already acknowledged that Ruggieri and Xue do not teach immobilizing a kinase to a substrate with a gasket in a multi-well format. As such, Applicant submits that a *prima facie* case of obviousness has not been made and Applicant requests withdrawal of this rejection.


CONCLUSION

It is respectfully submitted that the present application is now in condition for allowance, which action is respectfully requested. The Examiner is invited to contact Applicant's representative to discuss any issue that would expedite allowance of the subject application. Any fees for extension(s) of time or additional fees that are required in connection with the filing of this response, such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is authorized to charge any such required fees or to credit any overpayment to Kenyon & Kenyon's Deposit Account No. 11-0600.

Respectfully submitted,

KENYON & KENYON

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